What is claimed is:

1. A fuel transport tube having improved fuel vapor permeation, said tube comprising:

an inner conductive high density polyethylene tubular structure having an inner surface and an outer surface;

an aluminum barrier layer having an inner surface and an outer surface disposed on the outer surface of said inner high density polyethylene tubular structure; and

a non-conductive polymeric tubular structure having an inner surface and an outer surface disposed on the outer surface of said aluminum layer.

2. The tube of claim 1, wherein said inner conductive high density polyethylene tubular structure has a thickness of about 0.2 to 2 mm.

3. The tube of claim 1, wherein said inner conductive high density polyethylene tubular structure has a thickness of about 0.2 to 1.5 mm.

4. The tube of claim 1, wherein said inner conductive high density polyethylene tubular structure contains a conductive agent.

5. The tube of claim 4, wherein said conductive agent is (a) carbon or (b) a metal selected from the group consisting of copper, silver, gold, nickel, and alloys thereof.

6. The tube of claim 5, wherein said conductive agent is in the form of carbon fibers or carbon fibrils.

7. The tube of claim 4, wherein said conductive agent is present in an amount of about 2 to 20 weight percent.

8. The tube of claim 1, wherein said aluminum barrier layer has a thickness of about 0.02 to 1.5 mm.

9. The tube of claim 1, wherein said aluminum barrier is applied to said outer surface of said inner conductive high density polyethylene tubular structure by helical wrapping or by tensional radial curling.

10. The tube of claim 1, wherein said outer non-conductive thermoplastic tubular structure has a wall thickness of about 0.25 to 1.5 mm.

11. The tube of claim 1, wherein said outer non-conductive thermoplastic tubular structure is disposed on the outer surface said aluminum barrier layer.

12. The tube of claim 1, wherein said outer non-conductive polymeric tubular structure is constructed of a thermoplastic or rubber material selected from the group consisting of nylon, chlorinated polyethylene; chlorosulfonated polyethylene; styrene-butadiene rubber; butadiene-nitrile rubber; nitrile-polyvinyl chloride; EPDM, neoprene; vinylethylene-acrylic rubber; acrylic rubber; epichlorohydrin rubber; copolymers of epichlorohydrin and ethylene oxide; polychloroprene rubber; polyvinyl chloride; ethylene-propylene copolymers; ultra high molecular weight polyethylene; high density polyethylene; chlorobutyl rubber; and blends thereof.

13. The tube of claim 12, wherein said outer non-conductive polymeric tubular structure is constructed of high density polyethylene.

14. The tube of claim 1, further comprising a tie layer disposed between the outer surface of said conductive inner high density polyethylene tubular structure and the inner surface of said aluminum barrier layer.

15. The tube of claim 14, wherein said tie layer is an anhydride-modified linear low density polyethylene.

16. The tube of claim 1, further comprising a tie layer disposed between the outer surface said aluminum barrier layer and the inner surface of said non-conductive polymeric tubular structure.

17. The tube of claim 16, wherein said tie layer is an anhydride-modified linear low density polyethylene.

18. A fuel transport tube having improved fuel vapor permeation, said hose comprising in order:

a conductive inner high density polyethylene tubular structure containing about 2 to 20% carbon in the form of fibers or fibrils, said conductive inner high density polyethylene tubular structure having a thickness of about 0.2 to 1.5 mm;

a first anhydride-modified linear low density polyethylene tie layer;

an aluminum barrier layer having an inner surface and an outer surface, said aluminum barrier layer having a thickness of about 0.02 to 1.5 mm;

a second anhydride-modified linear low density polyethylene tie layer; and

an outer non-conductive high density polyethylene tubular structure, said outer non-conductive high density polyethylene tubular structure having a thickness of about 0.25 to 1.5 mm.

19. A method of making a flexible fuel transfer tube having an improved fuel vapor permeation, said method comprising the steps of:

providing an inner conductive high density polyethylene tubular structure having a conductive inner surface and an outer surface;

applying a thin aluminum barrier layer on the outer surface of said inner high density polyethylene tubular structure, said aluminum barrier layer having an inner surface and an outer surface; and

applying an outer non-conductive polymeric layer on the outer surface of said aluminum layer.

20. The method of claim 19, wherein said inner conductive high density polyethylene tubular structure has a wall thickness of about 0.2 to 1.5 mm.

21. The method of claim 19, further comprising the steps of applying an anhydride-modified linear low density polyethylene tie layer between the outer surface of said conductive inner high density polyethylene tubular structure and the inner surface of said aluminum barrier layer, and applying an anhydride-modified linear low density polyethylene tie layer between the outer surface of said aluminum barrier layer and the inner surface of said non-conductive polymeric tubular structure.

22. The method of claim 19, wherein said inner conductive high density polyethylene tubular structure is made conductive by adding a conductive agent thereto prior to forming said inner tubular structure.

23. The method of claim 22, wherein said conductive agent is added in an amount of about 2 to 20 weight percent.

24. The method of claim 19, wherein said aluminum barrier layer has a thickness of about 0.02 to 1.5 mm.

25. The method of claim 19, wherein said aluminum barrier layer is applied to the outer surface of said inner conductive high density polyethylene tubular structure by helical wrapping or by tensional radial curling.

26. The method of claim 19, wherein said non-conductive thermoplastic layer is constructed of nylon, chlorinated polyethylene, chlorosulfonated polyethylene, styrene-butadiene rubber, butadiene-nitrile rubber, nitrile-polyvinyl chloride, EPDM, neoprene, vinylethylene-acrylic rubber, acrylic rubber, epichlorohydrin rubber, copolymers of epichlorohydrin and ethylene oxide, polychloroprene rubber, polyvinyl chloride, ethylene-propylene copolymers, ultra high molecular weight polyethylene, high density polyethylene, chlorobutyl rubber, and blends thereof.

27. The method of claim 26, wherein said non-conductive thermoplastic layer is constructed of high density polyethylene or nylon.

28. The method of claim 27, wherein said non-conductive thermoplastic layer is constructed of high density polyethylene.

29. The method of claim 19, wherein said non-conductive thermoplastic layer has a wall thickness of about 0.25 to 1.5 mm.

30. The method of claim 19, further comprising the step of applying a protective cover around said tube.

31. The method of claim 30, wherein said protective cover is constructed of chlorinated polyethylene (CPE), nylon, nylon-PVC, EPDM, neoprene, hypalon, chlorobutyl, styrene-butadiene rubber (SBR), butadiene-nitrile rubber, chlorosulfonated polyethylene, vinyl ethylene-acrylic rubber, acrylic rubber, epichlorohydrin rubber, polychloroprene rubber, polyvinyl chloride (PVC), ethylene-propylene copolymers, high density polyethylene, and ultra high molecular weight polyethylene.

32. The method of claim 19, further comprising the steps of applying a first tie layer between the outer surface of said inner conductive high density polyethylene tubular structure and the inner surface of said aluminum barrier layer, and applying a second tie layer between the outer surface of said aluminum barrier layer and the inner surface of said outer non-conductive thermoplastic tubular structure.

33. The method of claim 32, wherein each of said first tie layer and said second tie layer is an anhydride-modified linear low density polyethylene.

34. A method of making a fuel transport tube, said method comprising the steps of:

providing an inner conductive high density polyethylene tubular structure containing about 2 to 20% carbon fibers or carbon fibrils, said inner conductive high

density polyethylene tubular structure having an inner surface and an outer surface, said inner conductive high density polyethylene tubular structure having a wall thickness of about 0.2 to 1.5 mm;

applying a first anhydride-modified linear low density polyethylene tie layer onto the outer surface of said inner conductive high density polyethylene tubular structure;

applying a aluminum barrier layer onto said first tie layer by helical wrapping or by tensional radial curling, said aluminum barrier layer having an inner surface and an outer surface, said aluminum barrier layer having a thickness of about 0.02 to 1.5 mm;

applying a second anhydride-modified linear low density polyethylene tie layer onto the outer surface of said aluminum barrier layer;

applying a non-conductive outer high density polyethylene tubular structure onto said second tie layer, said non-conductive outer high density polyethylene tubular structure having a wall thickness of about 0.25 to 1.5 mm; and

applying a cover around said non-conductive outer high density polyethylene tubular structure, wherein said cover is constructed of chlorinated polyethylene (CPE), nylon, nylon-PVC, EPDM, neoprene, hypalon, chlorobutyl, styrene-butadiene rubber (SBR), butadiene-nitrile rubber, chlorosulfonated polyethylene, vinyl ethylene-acrylic rubber, acrylic rubber, epichlorohydrin rubber, polychloroprene rubber, polyvinyl chloride (PVC), ethylene-propylene copolymers, high density polyethylene, and ultra high molecular weight polyethylene , said cover having a thickness of about 0.25 to 1.25 mm.